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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of J. YANOF, et al.	)	Examiner: B. ROY
	)	Art Unit: 3737
Serial No.: 09/990,518	)	Confirmation: 3075
Filed: November 21, 2001	)	
For: **METHOD OF REVIEWING TOMOGRAPHIC SCANS WITH A LARGE NUMBER OF IMAGES**	)	
Notice of Appeal Filed: April 3, 2005	)	
Attorney Docket No.: PHUS017057US	)	Cleveland, OH 44114 May 30, 2006

APPEAL BRIEF

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Commissioner For Patents
P.O. Box 1450
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Dear Sir:

A Notice of Appeal was filed April 3, 2006, appealing from the Final Rejection mailed November 3, 2005 rejecting claims 1-18.

Payment of the 37 CFR 1.20(b)(2) fee in the amount of $ 500.00 is enclosed.

31652.1

CERTIFICATE OF ELECTRONIC TRANSMISSION

I certify that this Appeal Brief and accompanying documents in connection with U.S. Serial No. 09/990,518 are being filed on the date indicated below by electronic transmission with the United States Patent and Trademark Office via the electronic filing system (EFS-Web).

May 30, 2006
Date

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C. REAL PARTY IN INTEREST

The real parties in interest is the assignee, Koninklijke Philips Electornics, B.V, having a place of business at Groenewoudseweg 1, 5621 BA, Eindhoven, NL.

D. RELATED APPEALS AND INTERFERENCES

None

E. STATUS OF THE CLAIMS

Claims 1-18 are pending in the application and stand rejected under 35 U.S.C. § 103 as being unpatentable over Wood (US 2002/070970) in view of Heuscher (US 5,544,212).

Claim 19 has been cancelled.

F. STATUS OF AMENDMENTS

Amendments A-C have been entered.

When Amendment C (After Final) was first filed on February 3, 2006 to resolve the 35 U.S.C. § 112 issues, the Examiner refused to enter the amendment, asserting that resolving the 35 U.S.C. § 112 issues was not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal. When the Amendment was resubmitted as April 3, 2006 as Amendment C and Request for Reconsideration, the Examiner agreed to enter the Amendment and indicated that the 35 U.S.C. § 112 issues had been resolved.

G. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present application is directed to a new and improved method and apparatus for reviewing tomographic scans with a large number of images [0006].

With reference to claim 1, a diagnostic medical imaging system **100** has an examination region **112** in which a subject being examined is positioned [0022]. The imaging apparatus obtains a plurality of first image slices of the subject, having a first thickness [0023]. See also [0002] and [0028] in which the slices, also referenced as thin axial cross-section slices, having a thickness of 0.5 mm are discussed. The axial cross-section slice images are stored in an image memory or other storage device that is a part of workstation **150** [0028]. For a whole-body scan at the discussed 0.5 mm slices, on the order of 4,000 slices are generated (for the Kennewick Man who was recently in the news, a whole-body scan with 0.39 mm slices was taken). For even a modest 20 cm (8 in) scan range, 400 0.5 mm axial cross-section slices would be generated [0002]. This is a vast number of slices to deal with [0003], leading to the drawbacks referenced in [0004] and [0005].

To overcome these problems, a data processor in the workstation **150** combines subsets, e.g., n contiguous thin slices are combined to create what is referred to herein as a thick slice [0029]. In this manner, a set of second, thicker slices is generated by combining the subsets of first, thin image slices [0029]. A display **152** includes a plurality of view ports including a first view port (Figure 2) which depicts one or more of the selected second, thick image slices and a second view port (Figure 3) which depicts one or more of the first, thin image slices which are constituents of one of the second, thick image slices which are depicted in the first view port [0030]. In this manner, the radiologist can review the thick slices when high resolution is not needed, reducing the time burden on the radiologist. But, the radiologist is free to conduct a review with the higher resolution thin slice images in the second view port in regions in which a more in-depth examination is desired [0039].

With reference to claim 6, a diagnostic medical imaging system includes an acquisition means **100** for acquiring a plurality of the first (thin) image slices [0027], [0035]. A combining means in the workstation **150** generates a plurality of second (thick) image slices from combined subsets of the first (thin)

image slices, the subsets including a plural number n of contiguous first (thin) image slices. The second (thick) image slices correspond to a second thickness which is n times the first thickness. The first (thin) and second (thick) slices are parallel to each other [0029], [0035]. A first display means or port (Figure 2) depicts selected ones of the plurality of second (thick) image slices and a second display means or port (Figure 3) displays one or more of the first (thin) image slices included in the subset used to generate one of the second (thick) image slices being displayed in the first image port or by the first display means [0030], [0037].

With reference to claim 15, the present application discloses a medical diagnostic image method. A plurality of first 2D images of a subject are attained, which first image represent a plurality of contiguous slices of a first (thin) thickness [0035], [0029]. A plurality of second 2D images are generated from subsets of the first (thin) images by merging together the first images in each of the subsets. The subsets include first (thin) images for a number of contiguous slices. The second images represent slices of a second thickness which is greater than the first thickness [0035], [0029]. Regions of the subject are designated by a reviewer for closer review [0035]-[0038]. The second (thick) images are sequentially displayed [0039] for review by the reviewer [0037]. When the designated regions are reached, the first (thin) images are displayed for review by the reviewer [0036], [0037], [0039].

H. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1-5 are unpatentable in the sense of 35 U.S.C. § 103 over Wood (US 2002/0070970) in view of Heuscher (US 5,544,212). More specifically, the Examiner relies primarily of Figure 5 of Wood and supporting paragraphs [0043]-[0047] and others.

Whether claims 6-14 are unpatentable in the sense of 35 U.S.C. § 103 over Wood in view of Heuscher.

Whether claims 15-18 are unpatentable in the sense of 35 U.S.C. § 103 over Wood in view of Heuscher.

It is noted that although Wood has issued as US 6,625,200, the Examiner has chosen to rely on the published application of Wood, to which reference will be made in this Appeal Brief.

I. ARGUMENTS

It is common in the medical diagnostic imaging arts to generate a plurality of parallel axial sections or slices, such as with a CT scanner and display images from this data set in a display having a plurality of view ports. In the present application, the applicants refer the Examiner to their prior patents US 5,371,778 and US 5,734,384 which were incorporated herein by reference, by way of example.

Wood gives the example of an imaging session in which 200 or more sections or slices are generated with a CT scanner [0041]. Wood, throughout the specification, refers to axial sections or planes. Sections as used by Wood and slices as used herein are synonymous. Axial sections (Wood) and axial cross-section slices (herein) connote slices transverse to a central axis of the subject (vertical slices of a prone patient). Although axial slices are commonly generated, Wood recognizes that the series of parallel sections or planes could be generated in other directions, such as sagittal or coronal [0045]. Although Wood generates an analogous series of parallel slices, which parallel slices taken together represent a volume of the subject, Wood uses this data in a different manner for a different purpose and to achieve a different end result that the present application.

The Examiner asserts that Wood discloses a system which generates first and second image slices and for displaying first image slices in a second view port **520** and the second image slices in a first view port **510** of Figure 5. The applicants disagree.

First or axial slice images are displayed in the first view port **510**. However, the second view port **520** does not display a planar image, much less a planar image, n of which are combined together to generate the axial slice image in the first view port **510**. Rather, the image in the second view port **520** of Wood is more analogous to the image shown in the third view port (Figure 4) of the present application and described in [0032] of the present application. The second display or view port **520** is a volumetric view of the volume encompassed by the CT sections [0043, lines 4-5]. Thus, as clearly set forth in [0043] of Wood, view port **520** does not represent a slice, but rather a volume. Wood does not explain the nature of the image in view port **520** in detail, but rather assumes that the construction of such an image is known to those in the art. Wood does explain that this volume image

includes a horizontal line shown but not labeled in Figure 5 to highlight the slice or section which is displayed in the first display **510** [0046], [0082]. This is analogous to the multi-planar reformatted view of Figure 4 of the present application on which thick slices are denoted by boxes **160** and the thin slices are shown by lines **170**. Thus, the image shown in view port **520** of Wood is analogous to the image shown in the third view port of the present application and claimed in claim 3 (and others) of the present application.

The Examiner does not assert that the image shown in the third view port **530** of Wood is either a thick or a thin slice image. The applicants agree.

Wood, like the present application, notes that one could examine each of the axial section images in a first view port **510** manually looking for cancerous nodules on the lungs [0050] but acknowledges that this task can be difficult and that cancerous nodules can be frequently overlooked [0050]. Rather than the present application's present thick slice/thin slice solution to this problem, Wood advocates using an automatic nodule locating algorithm [0072]. Cancerous nodules, or at least candidate cancerous nodules found by the automatic operation are identified by circles, such as circles **541** and **542** of the first view port **510** [0049]. The circles are also displayed in the second display **520** as illustrated more clearly in Figure 13 [0075]. When the operator designates one of the nodules or regions of interest (ROI) that ROI is brought up in the third view port **530**. Using a trackball and mouse, the region of interest in the third view port **530** can be rotated [0076]; [0086]. The ROI is described as having a volume and a diameter [0079] which suggests that the display in the third view port **530** is also a volume display [0079]. That view port **530** displays a volume image is confirmed by [0043], which states that **530** is a magnified and rotatable portion of the volume rendered in **520**.

Thus, the display of Wood illustrates one axial slice in the first view port **510**, a volumetric navigation image in the second view port **520**, and a rotatable volumetric image of an identified ROI in the third view port **530** [0043]. The Examiner does not suggest that Wood discloses combining a plurality of adjacent thin slice images to generate a thick slice image. Heuscher does not cure this shortcoming of Wood.

First, **Heuscher** does not relate to a display having multiple view ports. Rather, Heuscher explains in detail a technique for generating a series of slice images such as the series of axial slice images which are displayed in view port **510** of Wood. By way of background, CT slice images have often been generated using a step-and-shoot method. That is, the subject is positioned in a fixed position in the CT scanner. As the radiation fan-beam rotates, one or a few axial slices of data are generated which are reconstructed into the one or a few parallel slices. The patient is then moved by the width of a slice(s) and the process is repeated. By repeatedly moving, stopping, and imaging the patient, a series of parallel slices are generated such as the 200 parallel slices referenced in Wood. Heuscher, however, recognizes that there advantages is moving the patient continuously as the CT scanner rotates around the patient. When the patient is continuously moving and the x-ray tube is continuously rotating, data is collected along a spiral or helical path. Note, that due to this continuous motion, every time the x-ray detectors are sampled, the center of the fan-beam of radiation is offset by a short distance relative to the preceding and following sets of fan-beam data. A fan-beam of data is not by itself sufficient data to reconstruct an entire slice image. Rather, a plurality of fans spanning 180° plus the fan angle is typically considered the minimum sufficient data set. Heuscher addresses the problem of reconstructing a series of parallel slices from a spiral data set. The details of how the spiral data are converted into parallel slice images are explained in detail in the Heuscher patent and are not of relevance herein. Heuscher merely shows a technique for generating the axial slice data set display in port **510** of Wood or the first (thin) slice data set of the present application. To oversimplify, Heuscher replaces a missing ray of data in a selected slice by interpolating the nearest parallel rays to the upstream side and the downstream side of the selected slice. Due to the spiral nature of the raw data, the interpolation changes from ray to ray. The reader is invited to read Heuscher in greater detail if there is a greater interest in the Heuscher technique.

Once the set of parallel slice images is generated, the slices are all of the same width and are displayed in any conventional manner on a video monitor **62**. Because Heuscher can arbitrarily set the location of the slices (due to the interpolation from upstream and downstream) he can set the slice centers at any spacing, and in this

manner set the thickness of the slices which are reconstructed. Although Heuscher can reconstruct slices of different thickness, this is done by the placement of the slice centers and not by adding or otherwise combining thin slices to create thick slices. Moreover, Heuscher makes no suggestion of a concurrent display of thin and thick slices.

For the reasons set forth above, it is submitted that the Examiner has misapplied the references and that the references do not show that which the Examiner alleges.

Looking now to the individual claims of the present application, **claim 1** calls for a data processor which combines subsets of first image slices to generate a plurality of second image slices having a second thickness greater than the first. Moreover, claim 1 calls for each of the subsets to include a number of contiguous first image slices. Wood does generate a series of parallel first images. However, Wood does not suggest combining a number of contiguous first image slices into second, thick image slices. The second view port **520** of Wood to which the Examiner refers is a volume navigation image having a line (not numbered) which shows the location of the slice displayed in the first view port **510** relative to the lungs (Wood [0046]). Moreover, the image in view port **520** of Wood is the volumetric view of the volume encompassed by all of the CT sections or slices. (Wood [0043]). Because the slide image displayed in port **510** of Wood appears as a line in port **520**, it is clear that the viewing direction in port **520** is orthogonal to the viewing direction in port **510**. The image in a third view port **530** of Wood is a magnified and rotatable portion of a part of the volume shown in the second view port (Wood [0043]).

Claim 1 further calls for a display having a plurality of ports including a first view port which depicts one or more of the second (thicker) image slices and second view port which depicts one or more of the first (thinner) image slices. Again, only view port **510** of Wood displays image slices. View port **520** displays a volumetric image viewed orthogonal to the viewing direction of the slice image of the first view port and view port **530** displays a magnified and rotatable portion of the volume image shown in the second view port **520**. Thus, Wood does not display thick and thin image slices.

Moreover, claim 1 calls for more than merely displaying thick and thin image slices. Claim 1 further calls for the one or more first (thin) images which are displayed to be constituents of one of the second or thicker image slices that are depicted in the first view port. Thus, claim 1 calls for the image displayed in the second view port to be constituent of the image shown in the first view port. In Wood, the volume image of the entire lungs shown in the second view port **520** is not a constituent of the slice image shown in the first view port **510** as is asserted by the Examiner.

Heuscher does not cure any of these shortcomings of Wood. Heuscher explains how to generate a series of parallel, e.g., axial section slice images from spiral data. Heuscher's technique enables one to select the thickness of the images that are generated. However, Heuscher makes no suggestion of generating thin images and combining contiguous subsets of these thin images to generate thick images. If Heuscher wants thicker images, he merely defines the center plane of the slices further apart and adjusts the pitch and integration factor a set forth in greater detail in the Heuscher patent at column 4, lines 20-46.

Moreover, Heuscher makes no suggestion of displaying thick and thin images concurrently. Rather, Heuscher, at column 3, lines 45-49 merely suggests that the video processor can retrieve slice, projection, 3D rendering, or other image information from the image memory **56** and format the image data into appropriate formats for display on the video monitor **62**.

At best, Heuscher provides a technique by which the axial section slices that are displayed in view port **510** of Wood can be generated. Heuscher does not cure the above-noted shortcomings of Wood concerning combining thin slices to generate thick slices or of providing a coordinated display of thin and thick slices.

Claim 3 calls for a third view port which depicts a reference image which is viewed from a direction transverse to the first and second (thin and thick) image slices. The second view port **520** of Wood depicts a reference image which is viewed in a direction transverse from the image slice displayed in view port **510**. It is submitted that the single image displayed in view port **520** of Wood cannot simultaneously be both the claimed second (thick) slice image and the claim 3 reference image which is viewed from a direction transverse to the thick image slices.

Claim 4 emphasizes the correspondence between the claimed third view port (Figure 3) and the second view port **520** applied by the Examiner as the second view port. Specifically, claim 4 calls for the third view port to superimpose over the reference image a graphical representation depicting the relative location of an image slice shown in another view port. Although view port **520** of Wood does not show plural graphic representations representing thick and thin slice images shown in other view ports, it does have a single line which depicts the slice shown in the first view port **510**. Because view port **520** of Wood corresponds to the third view port set forth in the claims, it cannot also concurrently correspond to the claimed second view port. The third view port **530** of Wood being a magnified portion of **520** similarly cannot correspond to the claimed second (thick slice) view port.

Accordingly, it is submitted that **claim 1 and claims 2-5 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 6 is also directed to a diagnostic medical imaging system which includes a means for obtaining a plurality of first slice images of a subject having a first thickness. Wood uses a CT scanner to acquire such first slice images. Heuscher provides details of an appropriate CT scanner for obtaining such first slice images. However, claim 6 goes on to claim a combining means for generating a plurality of second image slices from combined subsets of the first image slices. The subsets include a plural number n of contiguous first image slices. Hence, the second image slices correspond to a second image thickness which is n times the first thickness. The first and second slices are, of course, parallel to each other. Heuscher generates slices of whatever thickness is determined by the set pitch factor, integration factor, and other preset scanner hardware and software parameters. Wood makes no suggestion of combining subsets of the CT slice images into thicker images. Indeed, the image in the second view port **520** to which the Examiner refers is a volume image spanning the lungs viewed orthogonal to the slice image in view port **510** and is not a slice image made up of a subset by combining the set of slice images that are displayed in the first view port **510** or vice versa.

This difference is emphasized where claim 6 calls for a first display means for displaying selected ones of the second image slices and a second display means for displaying one or more of the first image slices. The first view port **510** of

Wood displays axial slice images of the lungs, but the second display means or view port **520** of Wood displays a volumetric view of the lungs from a direction transverse to the axial slice images of the first view port or means **510** (Wood [0043]). Heuscher, which does not discuss the display means **62** beyond calling for standard displays, does not cure this shortcoming of Wood.

This distinction is further emphasized when claim 6 calls for the thin slice image(s) which is displayed to be one of the thin slice images of the subset which were combined to generate the displayed thick slice image.

Dependent **claim 7** sets forth a third display means which displays a reference image that includes a superimposed graphical representation of the relative locations of the first and second slice images. The third claimed display is analogous to the reference image displayed on the second display means **520** of Wood which displays a graphical representation of the location of the slice image displayed in the first display means **510**. Because the display means **520** corresponds most analogously to the third display means of claim 7 of the present application, it is clear that it cannot also be the first or second display means set forth in parent claim 6.

Accordingly, it is submitted that **claim 6 and claims 7-14 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 15 calls for a method of diagnostic imaging in which a plurality of first 2D images of a subject are obtained, which first images represent slices of a first thickness. Again, the applicants agree that Wood obtains a plurality of 2D slice images which are displayed in display **510** of Wood. Although Wood does not disclose details of how to generate such a series of first images, Heuscher shows the details of a spiral imaging technique which could have been used to obtain them. However, claim 15 goes on to call for generating a plurality of second 2D images from some subsets of the first images by merging together the first images in each subset. The subsets are further defined as including a number of contiguous slices. The second images then represent slices of a second thickness which is greater than the first thickness. Although the Examiner cites Heuscher for this proposition, Heuscher does not perform this step. Heuscher is able to generate a plurality of image slices of a selectable thickness. However, the thickness is selected in the initial set up when the pitch factor, interpolation factor, and other set up parameters are selected in

preparation for the scans (column 4, lines 37-47 and preceding paragraphs). Note that pitch, for example, is a hardware setting that relates the rotation speed of the rotating gantry to the axial movement speed of the patient to select the pitch of the data helix. To generate a set of slices of a different thickness, Heuscher changes the scan parameters and scan the patient a second time to generate a second set of images of a different slice thickness. There is no suggestion of generating images of a thicker slice thickness by combining images of a thinner slice thickness. Moreover, the claimed combining a contiguous number of thin slices to generate the thicker slices provides a correlation between the thick and thin slices. This correlation does not necessarily follow when the scan parameters of Heuscher are changed to generate a second set of image slices of a different thickness. For example, other thickness slices would not necessarily align with or be an integer multiple of the other. Indeed, Heuscher does not even address this topic. Absent the suggestion of the thicker slices being made up of a number of contiguous thin slices from the present application, it is submitted that the thicker and thinner slices of Heuscher would not have any necessary physical correlation and that many thinner slices could and likely would overlap with a pair of adjoining thick slices. Wood, which is not cited for this proposition, does not cure this shortcoming. The second view port **520** of Wood illustrates a volume image of the overall volume encompassed, not a slice image of any type. The third display **530** of Wood is a magnified, rotatable portion of a part of the volume displayed in the second view port **520**.

Claim 15 further calls for designating regions of the subject for closer review by the reviewer. Then, the second (thick) slice images are sequentially reviewed by the reviewer. When the designated regions are reached, then the first or thin images are displayed for review by the reviewer. Wood and Heuscher are both completely devoid of any suggestion of viewing thick slices images until a region marked for closer review is reached and then switching to displaying thin slice images. In Wood, three display ports **510**, **520**, and **530** have coordinated displays. There is no suggestion of serially displaying slice images of a first thickness until a designated region is reached and then displaying thin images. In display port **520**, the image remains static and the line indicating the displayed slice in view port **510** moves up or down along the image. Display port **530** displays a rotatable, magnified

part of the volume image **520**. Rather than the claimed viewing pattern, Wood [0072] uses an automated algorithm to find ROI and designate them by circles on the ports **510** and **520**. One can, for example, click on one of the circles causing port **510** to jump to that ROI and for port **530** to display that ROI. The radiologist can rotate the volume display in port **530** to view it from different directions and shift the slice in port **510**. Thus, Wood advocates a different viewing procedure. Heuscher, who merely alludes to conventional image displays and provides no display format detail does not cure this shortcoming of Wood.

Accordingly, it is submitted that **claim 15 and claims 16-18 dependent therefrom** distinguish patentably and unobviously over the references of record.

For the reasons set forth above, it is submitted that claims 1-18 distinguish patentably and unobviously over the references of record. An early reversal of the Examiner's rejection of claims 1-18 is requested.

Respectfully submitted,

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J. CLAIMS APPENDIX

1. A diagnostic medical imaging system comprising:

an imaging apparatus having an examination region in which a subject being examined is positioned, said imaging apparatus obtaining a plurality of first image slices of the subject, said first image slices having a first thickness;

a storage device into which the first image slices are loaded;

a data processor which combines subsets of first image slices to generate a plurality of second image slices having a second thickness greater than the first thickness, said subsets each including a number n of contiguous first image slices; and,

a display having a plurality of view ports including a first view port which depicts one or more selected second image slices and a second view port which depicts one or more first image slices which are constituents of one of the second image slices depicted in the first view port.

2. The diagnostic medical imaging system according to claim 1, wherein the data processor combines the subsets using a uniform averaging projection.

3. The diagnostic medical imaging system according to claim 1, wherein the display includes a third view port which depicts a reference image which is viewed from a direction transverse to the first and second image slices.

4. The diagnostic medical imaging system according to claim 3, wherein the third view port superimposes over the reference image depicted therein graphical representations of the relative locations of the first and second images slices shown in the first and second view ports, respectively.

5. The diagnostic medical imaging system according to claim 1, further comprising:

a storage device into which the second image slices are loaded.

6. A diagnostic medical imaging system for examining a subject, said diagnostic medical imaging system comprising:

acquisition means for obtaining a plurality of first image slices of the subject, said first image slices corresponding to a first thickness;

combining means for generating a plurality of second image slices from combined subsets of first image slices, said subsets including a plural number n of contiguous first image slices, said second image slices corresponding to a second thickness which is n times the first thickness, the first and second slices being parallel to each other;

first display means for displaying selected ones of the plurality of second image slices; and,

second display means for displaying one or more of the first image slices included in the subset used to generate one the second image slices being displayed by the first displaying means

7. The diagnostic medical imaging system of claim 6, further comprising:

third display means for displaying a reference image which includes superimposed therein graphical representations of the relative locations of the second and first image slices displayed by the first and second display means, respectively.

8. The diagnostic medical imaging system of claim 7, further comprising:

means for updating the display of the first, second and third display means in response to a selection of a point in one of the same, such that each of the first, second and third display means displays the selected point.

9. The diagnostic medial imaging system of claim 7, wherein the reference image is selected from a view consisting of a coronal view, a sagittal view, and a multi-planar reformatted view.

10. The diagnostic medical imaging system of claim 6, further comprising:

means for detecting small objects contained in the subsets of first image slices, said small objects having dimensions in the direction of slice thickness less than the second thickness; and,

means for projecting outlines of detected small objects onto the second image slices corresponding to the respective subsets.

11. The diagnostic medical imaging system of claim 10, wherein the outlines of detected small objects are color coded to distinguish them from one another.

12. The diagnostic medical imaging system of claim 6, further comprising: means for storing the first and second image slices.

13. The diagnostic medical imaging system of claim 6, further comprising:

means for sequentially progressing through the plurality of second image slices such that each in turn is displayed on the first display means for review.

14. The diagnostic medical imaging system of claim 13, further comprising:

means for designating regions for close review such that during the sequential progression, when a designated region is reached, a reviewer is directed to the first image slices for review.

15. A method of diagnostic medical imaging, said method comprising:

(a) obtaining a plurality of first 2D images of a subject, said first images representing a plurality of contiguous slices of a first thickness;

(b) generating a plurality of second 2D images from subsets of the first images by merging together the first images in each subset, said subsets including first images for a number of the contiguous slices they represent, said second images representing slices of a second thickness which is greater than the first thickness;

(c) designating regions of the subject for close review by a reviewer;

(d) sequentially displaying the second images for review by the reviewer; and,

(e) displaying the first images for review by the reviewer when the designated regions are reached.

16. The method according to claim 15, wherein step (b) includes:

combining the subsets of the first images via uniform averaging projection.

17. The method according to claim 15, further comprising

displaying a reference image of the subject; and,

superimposing in the reference image graphical representations of the relative locations of displayed first and second images.

18. The method according to claim 15, further comprising:

detecting small objects contained within the subsets of the first images; and,

projecting outlines of the detected small objects into the second images corresponding to the respective subsets.

19. (Cancelled)